

REMARKS

In view of the above amendment, applicant believes the pending application is in condition for allowance.

The Applicants thank the Examiner for the thorough consideration given the present application. Claims 1-9, 15-16, and 21-23 are pending. Claims 10 and 17-20 were previously cancelled. Claims 11-14 are cancelled herein without prejudice to or disclaimer of the subject matter set forth therein. Claims 1, 2, 4, 8, 9, 15, 16, 21, and 23 are amended. Claims 1 and 21 are independent. The Examiner is respectfully requested to reconsider the rejections in view of the amendments and remarks set forth herein.

Rejection Under 35 U.S.C. §103(a)

Claims 1-9, 11-16, and 21-23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Lee (U.S. 5,765,137). This rejection is respectfully traversed.

Independent Claims 1 and 21

While not conceding the appropriateness of the Examiner's rejection, but merely to advance prosecution of the instant application, independent claim 1 is amended herein to recite a combination of elements directed to apparatus for estimating a manufacturing cost for a product, including *inter alia*

a first input device for receiving input data concerning physical characteristics of the product to be manufactured at multiple stages of design;

a cost calculation processor adapted to calculate the manufacturing cost information received from said first input device for one or more process series, and to calculate the manufacturing cost factor data which is initially supplied or is updated by at least two external suppliers using separate input devices;

a memory for storing each of the calculated manufacturing costs;

a display device for simultaneously displaying the calculated manufacturing costs at the multiple stages of design for the at least two external suppliers, so that a user can determine which of the at least two external suppliers is better at each of the multiple stages of design.

In addition, independent claim 21 is amended herein to recite a combination of elements directed to apparatus for estimating a manufacturing cost for a product, including *inter alia* a first input device and an associated first display device for receiving and viewing input data concerning physical characteristics of the product to be manufactured at multiple stages of design of the product;

a cost calculation processor for calculating the manufacturing cost based on information received from said first input device at each of the multiple

stages of design of the product, and cost factor data independently supplied from at least two external suppliers using separate input devices;

 said first display device for displaying the calculated manufacturing costs from said cost calculation processor,

 wherein, upon entering a plurality of alternative process series for manufacturing the product at each of the multiple design stages via said first input device, said cost calculation processor calculates a plurality of alternative manufacturing costs for the at least two external suppliers, with each of the alternative manufacturing costs being associated with a respective one of the plurality of alternative process series for manufacturing the product at each of the multiple design stages,

 the first display device simultaneously displaying the calculated manufacturing costs at the multiple stages of design for the at least two external suppliers, so that a user can determine which of the at least two external suppliers is better at each of the multiple stages of design,

 wherein the calculated manufacturing costs displayed on said first display device change based on the cost factor data independently supplied from the external supplier using the second input device, and alternative physical characteristics of the product to be manufactured inputted using the first input device.

Support for the combination of elements set forth in each of claims 1 and 21 can be found in the specification, for example, in paragraphs [0036] to [0038]. See also FIG. 6 which simultaneously displays the calculated manufacturing costs for the one or more stages of design for two external suppliers (MA and MB), so that a user can determine which of the at least two external suppliers is better at each of the stages of design.

As a result of these combinations of elements, a comparison can easily be made between the cost of manufacturing at multiple stages of design for two external suppliers, so that a user can determine which of the at least two external suppliers is better at each of the stages of design. (See FIG. 6).

Applicants respectfully submit that the combination of elements as set forth in each of independent claims 1 and 21 is not disclosed or made obvious by the prior art of record, including Lee.

First of all, the Examiner concedes that Lee fails to disclose simultaneously displaying at least two of a plurality of calculated manufacturing costs on a split screen). The Examiner then asserts that providing a split screen view would be commonly known in the art at the time the invention was made, yet the Examiner has provided no support for such an assertion.

Further, nowhere in Lee, is there any hint that the Lee apparatus includes a first display device simultaneously displaying the calculated manufacturing costs for the one or more stages of design for the at least two

external suppliers, so that a user can determine which of the at least two external suppliers is better at each of the stages of design.

The present invention was conceived and reduced to practice in order to accommodate the challenges of an iterative design and cost estimating process involving multiple design changes and multiple suppliers. The present invention provides a novel solution to these challenges by providing for the first time a device which simultaneously displays the calculated manufacturing costs for the one or more stages of design for the at least two of the external suppliers, so that a user can determine which of the at least two external suppliers is better at each of the stages of design. With the present invention, a user is able to simultaneously review and compare previous and current manufacturing costs of different manufacturers, and to observe simultaneously on one display how these comparative costs change relative to one another, at different design stages.

The Examiner has provided no evidence that either the cited references or that which is commonly known in the art suggests the subject matter set forth in each of independent claims 1 and 21.

At least for the reasons explained above, Applicants respectfully submit that the combination of elements as set forth in each of independent claim 1 and 21 is not disclosed or made obvious by the prior art of record, including Lee.

Therefore, claims 1 and 21 are in condition for allowance.

All dependent claims are in condition for allowance due to their dependency from allowable independent claims, or due to the additional novel features set forth therein.

Accordingly, reconsideration and withdrawal of the rejection under 35 U.S.C. §103(a) are respectfully requested.

CONCLUSION

Since the remaining patents cited by the Examiner have not been utilized to reject claims, but merely to show the state of the art, no comment need be made with respect thereto.

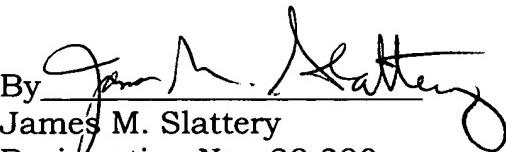
All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. It is believed that a full and complete response has been made to the outstanding Office Action, and that the present application is in condition for allowance.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, he is invited to telephone Carl T. Thomsen (Reg. No. 50,786) at (703) 205-8000.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17, particularly extension of time fees.

Respectfully submitted,

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Attachments